

CLAIM/COUNTER-CLAIM: WAS THE SCIENTIFIC REVOLUTION REVOLUTIONARY?**Overview:**

When you open a world history textbook, you will likely find that it is conveniently divided into chapters and units with titles that mark the major turning points of history. The tendency of historians to group events in this way is known as *periodization*. The assumption behind periodization is that there are moments when a sharp break with the past leads to a new kind of experience or a new way of understanding the world. Traditional periodization has seen the Scientific Revolution as a classic example of a sharp break with the medieval past and the ushering in of the modern world. Recently, however, historians have taken a fresh look at this period and wondered how revolutionary it really was.

Definitions of Key Terms:

science 1. a branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of general laws; 2. systematic knowledge of the physical or material world gained through observation and experimentation; 3. systematized knowledge in general.

revolution 1. an overthrow or repudiation and the thorough replacement of an established government or political system by the people governed; 2. a radical and pervasive change in society and the social structure, especially one made suddenly and often accompanied by violence; 3. a sudden, complete or marked change in something.

Claim: The Scientific Revolution Was Revolutionary**Document 1**

In the seventeenth century, a new factor immediately began to elbow the other ones away, pushing them from their central position. Indeed, it began immediately to seek control of the rest, as the apostles of the new movement had declared their intention of doing from the very start. The result was the emergence of a kind of Western civilization...that would cut itself away from the Greco-Roman heritage in general, away from Christianity itself—only too confident in its power to exist independent of anything of the kind. We know now that what was emerging towards the end of the 17th century was a civilization exhilaratingly new...that is why, since the rise of Christianity, there is no landmark in history that is worthy to be compared with this. – *Herbert Butterfield*

Document 2

This period saw a fundamental transformation in scientific ideas across mathematics, physics, astronomy, and biology in institutions supporting scientific investigation and in the more widely held picture of the universe. [It] led to the establishment of several [new] modern sciences. In 1984, Joseph Ben-David wrote “rapid accumulation of knowledge, which has characterized the development of science since the 17th century, had never occurred before that time. The new kind of scientific activity emerged only in a few countries of Western Europe, and it was restricted to that small area for about two hundred years.” – *Patrick Flynn*

Document 3

Since that revolution [over]turned the authority not only of the Middle Ages but of the ancient world—since it started not only in the eclipse of scholastic philosophy but in the destruction of Aristotelian physics—it outshines everything since the rise of Christianity and reduces the Renaissance and Reformation to the rank of mere episodes, mere internal displacements within the system of medieval Christendom.. [It] looms so large as the real origin both of the modern world and of the modern mentality that our customary periodization of European history has become an anachronism and an encumbrance. – *Herbert Butterfield*

Counter-Claim: The Scientific Revolution Was Not Revolutionary

Document 4

There was no such thing as the Scientific Revolution. Like many 20th century “traditions”...the notion of the Scientific Revolution is not nearly as old as we might think. The phrase “the Scientific Revolution” was probably coined in 1939, and it first became a book title in 1954. Before that time there was no event to be studied in the liberal curriculum...called the Scientific Revolution. Although many 17th century practitioners expressed their intention of bringing about radical intellectual change, the people who are said to have made the revolution used no such term to refer to what they were doing... Most people—even educated people—in the 17th century did not believe what expert scientific practitioners believed, and the sense in which people’s thought about the world was revolutionized at that time is very limited...The lives and thoughts of Galileo, Descartes, or Boyle were hardly typical of 17th century Italians, Frenchmen, or Englishmen. – *Steven Shapin*

Document 5

The very idea of the Scientific Revolution is...an expression of “our” interest in our ancestors, where “we” are late 20th century scientists. The past is not transformed into the “modern world” at any single moment: we should never be surprised to find that 17th century scientific practitioners often had about them as much of the ancient as the modern; their notions had to be successively transformed and redefined by generations of thinkers to become “ours.” The people, the thoughts, and the practices we tell stories about as “ancestors” always reflect some present day interest. That we tell stories about Galileo, Boyle, Descartes, and Newton reflects something about our late twentieth-century scientific beliefs and what we value about those beliefs. – *Steven Shapin*

Document 6

The science of the Middle Ages was significant in establishing a base for modern science. J.D. Bernal asserted that “the Renaissance allowed scholars to look at the world in a different light. Religion, superstition, and fear were replaced by reason and knowledge.” James Hannam says that, while most historians do think something revolutionary happened at this time, “the term ‘Scientific Revolution’ is another one of those prejudicial historical labels that explains nothing--you could call any century from the 12th to the 20th a revolution in science” and that the concept “does nothing more than reinforce the error that before Copernicus nothing of any significance to science took place”. Also, despite some challenges to religious views, most notable figures of the Scientific Revolution—including Copernicus, Brahe, Kepler, Galileo, Bacon, Descartes, and Newton—were devout in their faith. – *Patrick Flynn*

CLAIM/COUNTERCLAIM: WAS THE SCIENTIFIC REVOLUTION REVOLUTIONARY?

Do Now: Read the overview. Answer the questions in complete sentences in the space provided.

What is periodization? Why do you think historians use periodization? Are there any potential problems with viewing history this way? Explain.

Claim: The Scientific Revolution Was Revolutionary

Q1: What argument is made to support the claim in Document 1?

Q2: What argument is made to support the claim in Document 2?

Q3: What argument is made to support the claim in Document 3?

Counter-Claim: The Scientific Revolution Was Not Revolutionary

Q4: What argument is made to support the counter-claim in Document 4?

A horizontal number line with tick marks labeled 1 through 8.

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